monumental character on the whole, which distinguishes it from a domestic building.

The extreme length of the hall is 135 feet, the width, 103 feet, and the height, 68 feet. There are two tiers of boxes on each side: at one end there are also boxes, and at the other an orchestra of large size. The main trusses which carry the roof are of immense size and somewhat hazardous construction. The open part of the hall—that is, in the clear of boxes—is 106 feet by 68 feet. The ceiling is coved, and is formed into flat lozenge-shaped panels, to admit of encaustic decoration. It is calculated to accommodate 2,300 persons, and is estimated to cost 22,000*l*. It is to be lighted by means of gas burners along the line of cornice. Some of the panels in the cove open to admit of the gas being lighted, &c. But we cannot afford more space to Liverpool in our present number.

THE CHURCH OF S. ISAAC AT S. PETERSBURG.

ERECTED BY THE CHEVALIER DE MONTFERRAND.*

One of the most important features of this institute is the noble body of distinguished professors of our art, who compose the list of honorary and corresponding members. It forms the immediate link of connection between the professional men of this and foreign lands. We have thus the privilege of knowing the imposing edifices which arise in the principal cities of the continent, and are stimulated by their example, instructed by their genius. If in point of some facilities in matters of construction, we have the advantage of them, they, on the other hand, have more frequently the opportunities of bringing into co-operation the sister arts, and by the abundance of the means placed at their disposal, can more profusely adorn their edifices by the production of the pencil and the chisel, and by an abundance of rare and exquisite materials, such as granite, marble, bronze, and precious stones, can give that splendour of enrichment, in vain to be looked for in our modern buildings, until the present completion of the House of Lords, by our distinguished member Charles Barry.

I have had occasion in a previous session to call your attention to the stupendous column of Alexander, erected by the present Emperor of Russia, to the memory of his predecessor and beloved brother, after the designs of the Chevalier de Montferrand. In that work we particularly admired the monolithic shaft of granite, and the mechanical means employed in the elevation of the huge block. The chevalier, our honorary and corresponding member, has since favoured us by sending to the library a superb volume, illustrative of the magnificent church of S. Isaac, just completed: a monument of such leading consequence in every respect, and holding so important a rank in the cathedral churches of Europe, that it well deserves a passing notice, as introducing us to a peculiar combination of plan, and an application of granite and iron, and other ingenious processes, on so large a scale, and in some points of so novel a nature, as to be very instructive and interesting.

The origin of the church of S. Isaac dates from the foundation of the city of S. Petersburg; for Peter the Great conceived the idea of erecting a place of worship under the invocation of this saint; but he was not able to do more than construct a provisional church of wood in the Naval Yard, which was shortly after burned. The Czar then laid the foundation in 1717, of the second church of S. Isaac, not far from the Neva, on the site of the present palace of the Senate.

This church was also partly burned by fire in 1735, and the quarter of S. Isaac becoming more populous, and a place of greater resort, the Empress Catherine directed the erection of a [illegible] church in honor of this saint, in that [illegible] of the city, and the architect Rinaldi [illegible] the designs, and it was commenced [illegible]. It was intended to build this church entirely of marble, but the death of the Czarina took place, when it had only been carried up as high as the entablature, and the Emperor Paul I., anxious to clear away the immediate vicinity of the church, in order to render the site less obstructed, and the original plan more complete, directed the architect Brenna to finish it provisionally, in the mean time omitting or diminishing some of the principal features, until its proper completion, when a development more commensurate with the ideas of the Emperor, the church, and the people, could be carried into effect.

The plan of this church was strictly in conformity with the tradition and usages of the Greek church, the national rite of the Russian empire. It consisted of a Greek cross, of four equal arms, having absidal ends, the intersection or crux of the arms being surmounted by a dome with four abutting chapels at the angles, also surmounted by internal domes and exterior steeples. There was a projecting tower at the west end advancing considerably in front of the mass of the church, with a lofty steeple and entrance doorway; and there were doorways at the north and south at the ends of the transepts. There were three iconostases of the class described by Herr Hallman, in his able paper on the Greco-Russian Church, contained in the second part of the Transactions of the Institute. The plan, therefore, is simple and majestic—its parts well defined and presenting a great variety of effects. The perspective view also offers a busy and picturesque aspect. The lofty spire and the central dome, surrounded by its four minor turrets, has an effective and distinct character, devoid of monotony, although perhaps not very pure in detail, or severe in its composition as a whole. The outside dimension of the square mass of the church was 173 feet. Its greatest width from outside to outside of the apsidal ends of the transept was 222 feet. Its extreme external length from the front of the tower to the exterior of the eastern apsis 280 feet; consequently it was an edifice of no mean dimensions.

The magnificent ideas of the emperor, who desired to have a temple commensurate with the vast empire over which his rule extended, led him to submit to public competition the project for the new fabric; but none of the plans submitted seemed calculated to meet the public expectations.

Alexander the First then directed the Chevalier de Montferrand to prepare designs, with the express command, to preserve as much as possible of the old church, particularly the space occupied by the three iconostases, or altar screens, already consecrated. Many projects were consequently submitted to the Czar, who adopted one, which seemed best adapted to the special purpose of its destination, and combining best with the buildings by which it was more immediately surrounded.

In order to carry the works into effect, the architect immediately proceeded to clear the locality and to erect spacious workshops, offices for the clerks, habitations for certain of the police and officials, barracks for a military guard, a steam engine, and other indispensable contrivances.

The foundations were immediately excavated to the depth of above 33 feet below the surface of the ground. Fir piles were then driven throughout the whole extent, 12 in. in diameter and 21 feet in length, their distance apart being equal to their diameter. The earth around the heads of the piles was cleared to the depth of 14 inches, and charcoal driven in to fill up the vacuity, and the whole surface presented 10,762 piles.

Upon these were placed two courses of granite, composed of large blocks. The points of support, and particularly the foundations of the four piers of the dome, were also carried up in solid granite, and the rest filled up with ordinary construction, but forming a regular mass of compact masonry throughout the whole surface of the monument.

While these works were proceeding, the architect was directed to proceed to Finland, to examine the quarries whence were to be extracted the 48 monolithic blocks for the shafts of the columns of the portico. These quarries are situated in two small islands on the shores of the Gulf of Finland, between Vibourg and Fredericsham. These shafts in the rough were 7 feet in diameter and 56 feet long. They were embarked two on a vessel, and then transported by the Neva to St. Petersburg, and there finished off. These columns are certainly the largest ever employed for such a purpose. Those of the Pantheon at Rome are only between 46 and 47 feet long, and they exceed in size any others of antiquity now remaining. The peristyle of the dome has 24 columns, 42 feet high. Those noble columns, which many of us know, in the Baths of Diocletian, and those in the Baths of Caracella, are only 38 feet high.

Again, there are 32 columns in the steeples of this church, also monoliths; they are 30 feet high—thus presenting a series of 104 monolithic columns in granite, in number and size, and costliness of material, excelling every other monument of ancient or modern times.

We will now proceed to consider the plan of the building, which presents the elementary type of the Greek cross. This, however, is hardly marked with such distinctness as in the older church, there being several supplementary chapels and vestibules, which give somewhat of complexity to the arrangement. In the centre is the intersection of the 4 equal arms of the cross, surmounted by the dome; and again at the extreme angles of the parallelogram are 4 square divisions, surmounted by the 4 steeples. The church is placed due east and west—the altar to the east, with its several iconostases, the principal entrance at the west end, with its 3 doorways under an octastyle portico, projecting only one intercolumniation from the body of the building. The east end has a similar portico. In the ordinary arrangement of churches we should expect that the west end would form the principal entrance, and consequently would receive the greater degree of embellishment. But in this instance there are 2 noble porticoes at the ends of the north and south transepts; octastyle, like those at the east and west end, but having a depth of 3 intercolumniations, instead of one, with deeply recessed large niches, the whole composition being in imitation of that at the Pantheon of Rome in every respect. Apparently, this greater magnificence at these points arises from local considerations, as facing more important approaches and more imposing public edifices. The bases of the columns of these porticoes, as also the caps, are of bronze; the shafts 6 feet 6 inches in diameter, 11 feet apart, and 45 feet 6 inches high, giving a total height to the columns, including the base and the capital, of 56 feet 6 inches. The entablature is 14 feet 6 inches high: together 71 feet. Each portico is surmounted by a pediment, crowned by statues; and the summit and acroteria, and the tympanum, are enriched with bronze groups. This order runs round the whole exterior of the church, and has above it a double attic, equal in height to half that of the entire principal order, an enormous disproportion, which renders the building top heavy, and tends to detract from the vastness of the order beneath. It is most likely that the architect may have adopted this lofty attic to hide the roof; but the expedient has been more destructive to the effect of the building than the apprehended unsightliness of the roof.*

We will now enter the church under the western portico, and immediately we are admitted into a vestibule, similar to the narthex of the ancient Christian temple, with smaller vestibules to the right and left, which are surmounted by the steeples already alluded to. There is a centre nave, 43 feet wide, 175 feet 6 inches long, up to the iconostasis, and presenting a total length, from the inside of the eastern to the inside of the western wall, of about 278 feet. The greatest width inside between the walls is 153 feet.

The grand iconostasis, of white marble, rises up and forms the altar-screen, or image-bearer, in front of the large piers which terminate the eastern arm of the cross. It is 150 feet wide and 70 feet high.

Three steps lead up to the level of the altar platform. There are three lofty circular-headed doorways, about 14 feet wide by 34 feet high. The principal order is 46 feet high, the 8 Corinthian columns 37 feet 6 inches high, the shafts and those of the pilasters are

* The following paper was read at the opening meeting of the present session of the Royal Institute of Architects, the [illegible] at which we reported.

* See the accompanying view of the church, p. 594.

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